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NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION

DEPARTMENT OF CHEMISTRY

Results of the Feed Inspection

For 1910

MADE FOR THE
STATE BOARD OF AGRICULTURE

BY B. E. CURRY AND T. O. SMITH

NEW HAMPSHIRE COLLEGE
OF
AGRICULTURE AND MECHANIC ARTS
DURHAM, N. H.

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OF
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NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

DURHAM, N. H.

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The bulletins of the Experiment Station are published at irregular intervals, and are sent *free* to all residents of New Hampshire requesting them.

The Inspection of Feeding-Stuffs.

Each year, as has been pointed out heretofore in these reports, the inspection of commercial feeding-stuffs is becoming more important. There has been a steady increase for a number of years in the number of brands of feeds inspected by the State Board of Agriculture. This year there were 135 brands of feed offered for sale in New Hampshire from which official inspection samples were taken.

It has been pointed out before in these columns that our present feed laws are not adequate to meet the present needs of both the producer or jobber and the consumer. The inadequacy of our present laws are intensified at present by the fact that the laws in all of the neighboring states are more rigid and effective. For instance, when a carload of cotton-seed meal goes into the State of Maine, no part of it can be offered for sale until it has been properly inspected. It is not, therefore, an easy proposition to sell 37 per cent. cotton-seed meal for 41 per cent. in the State of Maine. In New Hampshire the present methods of inspection do not enable the consumer to know about his feed until several months after it has been paid for and when rebates are not to be obtained. The consumers of commercial feed-stuffs should rise up and demand better laws and a strict enforcement of the same. Feed jobbers evidently are thoroughly conversant with the New Hampshire methods of inspection. This is shown by comparing the last report of the New Jersey station with the results herein reported. New Jersey reports 340 brands of feeds, 8.5 per cent. of which had deficiencies in protein or fats. In New Hampshire 32 per cent. of the brands were deficient in protein alone. About 28 per cent. were deficient in fat. Seventeen samples were deficient in both fat and protein. Whether this represents carelessness on the part of the sellers or whether New Hampshire is to become or has become the dumping-ground for inferior feed-stuffs remains to be seen. At any rate it is perfectly logical to expect to find

inferior products offered for sale unless some changes are made in the present methods. It is very doubtful if alone the publicity given to poor articles will longer answer the public needs.

Twelve brands of cotton-seed meal have been sampled and analyzed. Fifty per cent. of these did not satisfy the guarantee with respect to protein. In one case the deficiency amounted to 18 per cent., while in two others the deficiencies were a little more than 13 per cent. These represent pretty fair margins for profit and loss. On the other hand, one sample showed a protein content of more than 7 per cent. greater than the guarantee. Two dollars per ton represented the difference in the selling price of the poorest and best meals. This is a matter which both the consumer and seller might well think about. It is obvious that something should be done that would give the consumer an opportunity to know what he buys. A revision of the present law together with some changes in the analytical facilities would meet these needs. The dealer in high grade feeding stuffs should be as insistent as the consumer for these changes. The results would be his best advertisements.

The growth of the poultry business has been accompanied by a great flood of poultry feeds. These are compounded from many grains and seeds, charcoal, meal scraps, bone shells, etc. Without discussing the merits of the different brands of these feeds a few general remarks may be in order. Some of these feeds are made from a good quality of grains. Others are a mixture of screenings and inferior grains. A careful inspection of these mixtures will usually enable one to determine something about the quality. Usually the price is sufficient to cover the cost of a high grade article. The prices of the best mixtures are little different from the prices of the inferior mixtures.

The beef scraps and animal meals while numerous, do not call for any particular comment. Because of the general nature of the materials which go into these, the composition is necessarily more or less variable. In general all of these meal mixtures are by-products of packing house industries and have become important as poultry feeds. Because of the general composition of these products, proper sampling is difficult at best and small deviations from the guarantee are not particularly significant.

Among the feeds one sample of alfalfa meal has been reported.

The price at which his feed was offered for sale together with its composition furnishes data for the feeder to think about. The average composition of good dry clover hay is 12 per cent. protein and 3 per cent. fat. It is very obvious from these data that clover hay is not properly appreciated by our feeders.

In the preparation of this report analytical assistance has been rendered by Messrs. C. H. and J. E. Robinson. The results of the inspection appear in the following table:

RESULTS OF THE FEED INSPECTION.

Brand.	Manufactured by.	Protein.		Fat.		Cost per 100 lbs.
		Guaranteed.	Found.	Guaranteed.	Found.	
Alfalfa Meal	M. E. Peters Co., Omaha, Neb	9.–14.00	14.92	.5–1.00	1.90	1.60
Hominy Feed						
Wirthmore Hominy Meal	C. M. Cox Co., Boston, Mass	9.5–12.00	11.41	7.5–9.00	10 00	1.70
Hominy Meal	Miner Hillard Co., Wilkes Barre, Pa	10.–12.00	9.92	7.5–9.00	10.33	1.60
Hominy Feed	Mystic Milling Co., Sioux City, Ia	12.00	10.89	9.00	7.85	1.60
Blue Ribbon Hominy	J. E. Soper Co., Boston, Mass	10.00	10.18	8.00	6.60	....
Standard Hominy Meal	Standard Cereal Co., Chillicothe, O	11.50	11.17	8.00	8.30	1.65
Hominy Feed	Patent Cereal Co., Geneva, N. Y	10.–11.00	10.79	7.–8.00	7.50	1.65
Cotton-Seed Meal.						
Choice Cotton-Seed Meal	Amer. Cotton Oil Co	41.00	35.22	9.00	9.10	1.75
Dover Brand Cotton-Seed Meal	F. M. Brode & Co., Memphis, Tenn	38.–41.00	35.63	7.–9.00	6.00	1.95
Owl Brand Cotton-Seed Meal	" "	41.–43.00	39.90	6.–8.00	8.00	1.85
Buckeye Cotton-Seed Meal	Buckeye Cotton Oil Co., Cincinnati, O	39.–41.00	41.15	6.5–7.00	8.90	1.90
Rose Brand Cotton-Seed Meal	Exchange Cotton and Linseed Meal Co	41.–43.00	40.63	7.–9.00	10.40	1.90
Good Luck	S. P. Davis, Little Rock, Ark	38.00	45.61	9.00	10.45	1.95
Dixie Brand Cotton-Seed Meal	Humphrey Godwin Co., Memphis, Tenn	38.5–43.00	39.45	7.–9.00	16.20	1.75
Cotton-Seed Meal	Hunter Bros. Milling Co	41.00	37.82	7.50	8.45	1.90
Imperial Cotton-Seed Meal	Imperial Cotton Milling Co	41.00	41.20	9.00	9.35	1.90
Prime Cotton-Seed Meal	C. C. Johnson & Co., Memphis, Tenn	41.00	33.69	8.00	9.37	1.85
Soper's Choice Cotton-Seed Meal	J. E. Soper Co., Boston, Mass	41.00	41.07	8.00	8.30	1.90
Cleveland Flax Meal	Amer. Linseed Co., Chicago	36.–40.00	37.63	1.–3.00	2.60	2.00
Linseed Oil Meal	" " "	36.–40.00	38.50	1.–3.00	4.15	2.10
Old Process Oil Meal	Mann Bros., Buffalo, N. Y	34.–37 00	35.80	6.–7.00	7.10	2.15
Ground Flax Flakes	C. R. Luce, Milwaukee, Wis	17.34	17.55	17.37	15.85	1.25
Oil Cake Feed	J. Loring & Co., Watertown, Mass	16.00	19.19	7.00	6.00	1.90
Brewers' and Distillers' Grains.						
Brewers' Grains	S. E. Faithful, Boston, Mass	.....	27.80	.....	9.98	1.50
Dearborn Distillers' Dried Grains	J. W. Biles Co., Cincinnati, O	22.–26.00	26.06	8.–10.00	10.37	1.70
Union Grains	" " "	24.00	24.44	7.00	6.60	1.80
Two Ex (XX) Grains	" " "	27.–30.00	30.58	8.–12.00	9.98	1.75
Holstein	Hottelott & Co., Milwaukee, Wis	27.00	25.37	6.00	5.80	1.45

Gluten Feeds.						
Cream of Corn Gluten Feed	American Maize Product Co., New York	25.00	25.09	2.50	4.45	2.00
Clinton Feed	Clinton Sugar Refining Co	23.00	24.24	3.00	3.80	1.80
Buffalo Gluten Feed	Corn Products Refining Co	24.–27.00	25.85	2.–5.00	2.40	1.75
Crescent Gluten Feed	" " " "	24.–27.00	26.23	2.50	1.43	1.75
Globe Gluten Feed	" " " "	24.00	26.63	2.50	2.60	1.75
Cedar Rapids Gluten Feed	Douglas & Co., Cedar Rapids, Ia	23.00	23.00	4.00	4.50	1.80
Bay State Gluten Feed	J. E. Soper & Co., Boston, Mass	22.00	21.75	4.00	4.00	5.67
Molasses Feed.						
Sucrene Dairy Feed	Amer. Milling Co	16.50	16.50	3.50	5.40	1.50
Sugaroto Dairy Feed	Northwest Mills Co., Winona, Minn	16.–18.00	14.36	3.–5.00	2.05	1.35
Molac Dairy Feed	Quaker Oats Co	16.–18.00	15.68	3.–4.00	2.70	1.40
Holstein Sugar Feed	F. W. Geoke & Co., St. Louis, Mo	15.00	14.45	3.00	3.00	1.35
Husted Molasses Feed	Husted Milling Co., Buffalo	18.–20 00	18.74	4.–6.00	4.14	1.65
Quaker Dairy Molasses Feed	Quaker Oats Co	.....	17.76	.....	3.70	1.45
Quaker Molasses Dairy Feed	" " "	16.00	16.17	3.50	3.30	1 50
Horse Feeds.						
Sugaroto Horse Feeds	Northwest Mills Co	12.00	11.78	3.50	5.45	1.40
Viko Horse Feeds	J. W. Biles Co	16.00	17.60	6.00	7.60	1.75
Horse Feed	Buffalo Cereal Co	10.–12.00	10.53	4.–5.00	4.00	1.75
All Grain Horse Feed	H. O. Co., Buffalo	12.00	12.42	4.50	1.17	1.85
Pearl, Horse and Cow Feed	Chapin & Co., Boston	7.–9.00	7.50	2.5–5.00	2.18	1.55
Dairy Feeds.						
Unicorn Dairy Ration	Ajax Milling Co., Buffalo	26.00	27.03	8.00	5.00	1.75
Ajax Flakes	" " " "	31.–33.00	28.54	12.–14.00	11.50	1.75
Empire State Dairy Feed	Clark Bros. & Co., Peoria, Ill	28.–31.00	32.60	9.–12.00	10.35	1.70
Daisy Dairy Feed	Great Western Cereal Co., Chicago	15.00	20.05	3.00	3.85	1.45
Husted Dairy Feed	Husted Milling Co., Buffalo	20.–22.00	22.99	4.–5.00	5.90	1.65
All Grain Milk Feed	H. O. Co., Buffalo	14.00	16.28	4.00	4.07	1.65
Badger Dairy Feed	Chas. A. Krause Milling Co	16 –18.00	13.99	3.5–4.50	2.87	1 50
Empire State Dairy Feed	J. D. Page & Co., Syracuse, N. Y	32.00	24.80	11.33	11.35	1.65
Prize Dairy Feed	Molasses Feed Co., Milwaukee	18.00	17.55	3.00	1.25	1.40
Paragon Dairy Feed	St. Albans Grain Co	28.–30.00	29.31	5.–7.00	7.25	1.60
Creamery Feed	Buffalo Cereal Co	18.–20.00	19.92	4.–5.00	5.20	1.75
Jersey Mixed Feeds	Ind. Milling Co., Terre Haute, Ind	10.–12.00	11.45	2 50–3.50	2.90	1.45
Stock and Miscellaneous Feeds.						
Queen Stock Feed	A. H. Brown & Sons, Boston, Mass	10.–12.00	10.27	4.–5.00	6.90	1.75
Chop Feed	Buffalo Cereal Company	7.–8.00	8.03	3.–4.00	5.43	1.55
Stock Feed	" " "	8.–9.00	8.60	4.–5.00	6 95	1.65
Charlestock Feed	C. M. Cox, Boston, Mass	6.–9.00	7.41	3.–5.00	2.85	1.60
Wirthmore Stock Feed	" " " "	9.–12.00	8.93	4.–5.00	6.60	1.65
Wirthmore Growing Feed	" " " "	15.–18.00	11.89	5.–7.00	1.85	2.00
Colonial Developing Feed	Albert Dickinson & Co., Chicago	10.00	10.75	3.00	3.00	2.25
Boss Chop Feed	Great Western Cereal Co., Chicago	9.50	9.61	4.00	4.10	1.50
Sterling Stock Food	" " " " "	10.00	10.09	4.00	1.65	1.65

Results of the Feed Inspection.—*Concluded.*

Brand.	Manufactured by.	Protein.		Fat.		Cost per 100 lbs.
		Guaranteed.	Found.	Guaranteed.	Found.	
Stock and Miscellaneous Feeds.						
Extra Good Stock Feed	Griswold & MacKinan, St. Johnsbury, Vt.	7.63	8.25	2.37	3.95	1.65
Special Provender	" " " " "	7.63	7.32	12.97	3.25	1.65
Haskell's Stock Feed	W. H. Haskell, Toledo, Ohio	8.-10.00	9.21	4.-5.00	6.00	1.70
Stock Husted Feed	Husted Milling Co.	8.-10.00	8.42	4.-5.00	8.47	1.65
Imperial Corn Oats and Barley Chop	Imperial Grain & Milling Co., Toledo	8.90	8.90	3.70	2.70	1.65
Imperial Regal Stock Feed	" " " " "	8.00	6.62	8.70	2.90	1.50
Imperial Steamed and Cooked Feed	" " " " "	10.00	8.65	4.00	1.70	1.85
New Era Stock Feed	Noyes & Colby, Boston, Mass.	10.-12.00	9.36	4.-5.00	6.25	1.70
Growing Feed	Park & Pollard Co., Boston, Mass.	14.-15.00	17.11	3.-4.00	4.10	2.25
Purina Mill Feed	Purina Mills, St. Louis, Mo.	11.00	11.14	3.50	3.50	2.00
Schumacher Stock Feed	Quaker Oats Co.	10.00	10.62	8.25	3.10	1.65
Victor Feed	" " " "	7.50-9.00	8.74	3.-4.00	3.30	1.50
Jas. Brown Stock Feed	St. Albans Grain Co.	9.-12.00	9.65	4.-5.00	9.30	1.60
Stott's Winner Chop Feed	David Stott, Detroit, Mich.	9.50	7.32	5.00	5.10	1.50
Star Feed	Toledo Elevator Co., Toledo, O.	7.00	8.43	5.50	5.60	1.45
Toledo Stock Feed	" " " "	9.-12.00	11.45	3.-5.00	6.71	1.55
Beef Scraps and Poultry Feeds.						
Beef Scraps	Amer. Agr. Chemical Co.	40.-60.00	56.20	5.-6.00	15.89	2.75
Beef Scraps	Beech Soap Co., Lawrence, Mass.	40.00	38.53	20.00	20.00	2.75
Beech Meat and Bone Meal	" " " " "	30.00	21.20	10.00	11.30	1.75
Breck's Ground Beef Scraps	Jos. Breck & Sons, Boston, Mass.	43.-50.00	47.89	12.-15.00	11.95	2.75
Bowker's Animal Meal	Bowker's Fert. Co., Boston, Mass.	40.00	40.65	5.00	6.65	2.00
Ground Scraps	C. S. Page, Hyde Park, Vt.	55.-65.00	56.85	10.-15.00	15.09	3.25
Beef Scraps	John C. Dow Co., Boston, Mass.	48.-50.00	40.11	12.-15.00	11.05	2.55
Essex Beef Scraps	Essex Fert. Co., Boston, Mass.	40.-50.00	37.75	6.-12 00	10.02	2.70
Beef Scraps	W. D. Higgins, So. Framingham, Mass.	45.-65.00	28.53	10.00	11.10	2.35
Beef Scraps	Hinckley Rendering Co., Somerville, Mass.	35.-50.00	33.55	6.-12.00	6.25	2.50
Dried Beef Pulp	Larrows Milling Co., Detroit, Mich.	8.00	8.65	5.00	1.97	1.35
Swift's Beef Scraps	Manchester Rendering Co.	40.-50.00	45.30	8.-12.00	14.00	2.40
Animal Meal	Nathan Tufts & Son., Boston, Mass.	.....	32.92	.....	3.40	....
Beef Scraps	" " " " "	.....	33.80	.....	4.99	2.00
Blue Ribbon Beef Scraps	Park & Pollard Co., Boston, Mass.	60.-80.00	53.30	10.-13.00	16.95	4.00
Beef Scraps	Parmenter & Polsey, Boston, Mass.	40.-50.00	41.11	8.-12.00	10.40	2.45
Beef Scraps	Portland Rendering Co.	40.-50.00	45.23	6.-12.00	13.65	3.25

Beef Scraps and Poultry Feeds.						
Swift's Meat and Bone Meal	Swift's Lowell Fert. Co.	35 -45.00	43.50	3.-10.00	11.86	2.00
Pure Beef Scraps	H. K. Webster Co., Lawrence, Mass.	55.00	44.02	12.00	14.00	2.50
Pure Beef Scraps	Whitman & Pratt, Lowell, Mass.	40.-50.00	44.42	10.-15 00	5.55	2.50
Poultry Feeds.						
Chick Food	Cyphers Incubator Co., Buffalo	10.54	11.19	3.40	2.90	2.50
Poultry Feed	Buffalo Cereal Co.	15.-17.00	15.67	4.-5.00	7.50	2.00
Scratching Grain	" " "	10.-12.00	10.44	3.-4.00	.95	2.05
Wirthmore Chick Feed	C. M. Cox	14.00	10 29	8.00	1.26	2.20
Whitman's Poultry Mash	" "	12.-14.00	13.50	3.50	4.20	2.10
Wirthmore Scratch Feed	" "	10.00	11.58	5.00	3.60	2.20
Chick Feed	Albert Dickinson & Co.	10.00	10.27	3.00	3.20	2.50
Queen Poultry Mash	" " "	11.00	12.48	2.50	4.20	2.00
Globe Scratch Feed	" " "	10.00	11.37	2.50	3.10	2.00
Sterling Scratch Feed	Great Western Cereal Co.	10.00	10.00	3.00	3.90	2.10
Extra Good Scratch Feed	Griswold & MacKinan	11.00	11.60	3.00	1.45	2.00
Competition Scratch Feed	Husted Milling Co.	12.-14.00	9.96	4.-5.00	4.60	1.90
Husted Chick Feed	" " "	12.-14.00	10.44	4.-5.00	1.86	2.00
Husted Laying Mash	" " "	15.-17.00	16.23	3.-4.00	4.60	1.85
Husted Scratch Feed	" " "	11.-13.00	11.11	4.-5.00	1.25	2.00
All Grain Chick Food	H. O. Co.	12.00	11.97	3.00	2.55	2.25
All Grain Poultry Feed	" "	17.00	17.29	5.50	5.60	2.20
All Grain Poultry Mash	" "	17.00	17.20	5.50	4.90	2.00
All Grain Scratching Feed	" "	11.00	10.77	3.50	3.15	2.25
Dry Mash Feed	Park & Pollard Co.	20.-23.00	26.98	3.00	4.75	2.35
Gritless Chick Feed	" " "	13.77	15.79	2.77	3.00	2.50
Intermediate Chick Feed	" " "	10.00	11.28	3.00	3.50	2.25
Scratch Feed	" " "	10.00	10.44	3.00	3.45	2.25
Amer. Poultry Feed	Quaker Oats Co.	12.-14.50	12.04	3.5-4.50	6.22	1.80
Schumacher's Little Chick Feed	" " "	10.00	9.49	2.50	3.00	2.00
High Grade Scratching Feed	H. K. Webster Co., Lawrence, Mass.	10.00	10.49	3.00	3.00	2.15
Wyandotte Chick Feed	Ross Bros., Worcester, Mass.	8.25	8.30	2.25	2.95	2.25
Calf Feeds.						
Triangle Calf Feed	Flint Mills Co., Milwaukee	22.00	20.02	10.00	10.20	2.75
Schumacher's Calf Meal	Quaker Oats Co.	19.-21.00	19.92	8.-9.50	8.15	3.50
Grayson Calf Meal	Great Western Cereal Co.	21.00	23.22	5.00	5.90	3.00
Blatchford's Calf Meal	Blatchford's Calf Meal Co., Waukegan, Ill.	25.00	28.82	5.00	5.23	3.50

AVERAGE COMPOSITION OF COMMON CATTLE FOODS.

	Water.	Ash.	Protein.	Soluble Carbohydrates.	Fibre.	Fat.
Alfalfa	8.4	7.4	14.3	46.0	25.0	14.0
* Hay, red top	8.9	5.2	7.9	47.4	26.6	1.9
* Hay, Timothy	13.2	4.4	5.9	45.0	29.0	2.5
* Hay, clover	15.3	6.2	12.3	38.1	24.8	3.3
* Hay, Hungarian	7.7	6.0	7.5	49.0	27.7	2.1
* Oat fodder	8.9	6.2	7.6	45.1	29.3	2.8
* Rye fodder, in bloom	8.5	5.9	9.7	43.4	30.2	2.3
* Corn stover	40.1	3.4	3.8	31.9	19.7	1.1
† Corn silage	80.5	1.5	1.6	10.0	5.8	0.6
* Corn, N. H. Flint	10.1	1.5	11.6	70.2	1.1	5.5
* Corn, Western Dent	10.6	1.5	10.3	70.4	2.2	5.0
* Corn meal	15.0	1.4	9.2	68.7	1.9	3.8
¶ Hominy feed	9.0	2.8	11.0	65.0	3.6	8.6
* Oats, whole	11.0	3.0	11.8	59.7	9.5	5.0
¶ Corn and oats, pure	12.0	2.2	9.8	68.5	3.3	4.2
§ Wheat bran, spring	10.6	6.0	16.3	53.0	9.4	4.7
§ Wheat bran, winter	11.7	5.9	15.2	54.8	8.5	3.9
¶ Wheat middlings, white	11.3	2.7	15.8	62.5	3.5	4.2
Wheat middlings, brown	10.6	3.8	17.8	57.0	5.5	5.3
¶ Wheat feed	10.8	4.3	17.0	58.1	5.1	4.7
Gluten feed	8.6	1.2	26.3	53.4	6.9	3.6
Gluten meal	8.8	0.7	35.5	50.3	1.6	3.1
‡ Distillers' Grains	8.8	1.8	32.1	34.9	11.0	11.4
Brewers' Grains	8.0	3.8	23.1	49.4	10.8	4.9
‡ Malt sprouts	11.0	5.8	27.1	42.6	11.9	1.6
¶ Linseed meal, old process	9.8	5.5	33.9	35.7	7.3	7.8
¶ Linseed meal, new process	9.1	5.8	35.2	38.4	8.5	3.0
¶ Cottonseed Meal	6.9	7.2	44.6	25.1	5.6	10.6

* Composition of American Feeding Stuffs. Jenkins and Winton.
† Analyses made at the N. H. Expt. Sta., 1895–1899.
§ Penn. Expt. Sta. Bull., No. 48.
¶ Compiled from Feed Inspection Reports of various states.
‡ Hatch Expt. Sta. Bull., No. 94.

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